

WHAT IS CLAIMED IS:

1. A storage device having a capability of learning access patterns, comprising:
 - a control unit;
 - a cache memory; and
 - a disk device;

wherein said control unit records a data readout location in the disk device as a history for each computer, respectively reading out data from said storage device, based on predetermined information, and then pre-reads data to be used by a computer from said disk device to said cache memory, based on a command containing information for specifying said history and information for specifying said computer that uses said storage device.
2. A storage device according to claim 1, wherein said predetermined information is for specifying said computer and for specifying said recorded history, and

 said control unit records said history as being linked with said information for specifying said history and said information for specifying said computer and, when said command containing said information for specifying said computer and said information for specifying said history is received, reads data from said disk device to said cache memory, based on said history linked with said information for specifying said computer and said information for

specifying said history contained in said command.

3. A storage device according to claim 2, wherein said predetermined information includes information on time, and said control unit records said history as being linked with information for specifying said history and information for specifying said computer until a predetermined time.

4. A storage device according to claim 3, wherein said predetermined information includes information for specifying a data storage location of said disk device, and said control unit records said history as being linked with said information for specifying said history and said information for specifying said computer from a time when said computer specified by said information for specifying said computer reads out data stored at a data storage location of said specified disk device.

5. A storage device according to claim 4, wherein when a command of stopping record of said history is received, the record of said history is stopped.

6. A storage device according to claim 5, wherein said control unit receives information for specifying a data storage location of said disk device when said command is received and reads out data from said disk device to said cache memory, based on said history linked with said information for specifying said computer and said information for specifying said

history contained in said command from a time when the data stored at the data storage location of said specified disk device is read by said computer specified by said information for specifying said computer.

7. A storage device according to claim 4, wherein an operating system program to be used by said specified computer is stored in a location specified by the information for specifying the data storage location of said disk device.

8. A storage device according to claim 6, wherein an operating system program to be used by said specified computer is stored in a location specified by the information for specifying the data storage location of said disk device.

9. A storage device according to claim 1, wherein the history is arranged to be recorded in a form of a table specifying a relationship among a history ID, the data readout location and the computer using the data having been stored in the location.

10. A system including a storage device having a disk device and a cache memory, a management computer, and a plurality of computers, comprising:

said management computer for transmitting to said storage device a first command containing information for specifying any one of said computers and information for specifying a history;

said storage device for, when the computer

specified by said first command reads out data from said storage device, reading a storage location of said data in said disk device as a history as being linked with information for specifying said history and information about said computer to be specified contained in said first command;

 said management computer for transmitting to said storage device a second command containing information for specifying any one of said plurality of computers and information for specifying said history; and

 said storage device for reading out data specified by said history from said disk device to said cache memory, based on said second command received from said management computer.

11. A system according to claim 9, wherein said management computer includes information about a schedule of a designation to be transmitted to said storage device by said computer itself, and said management computer transmits said first command or second command to said storage device based on said schedule.

12. A system according to claim 10, wherein said management computer designates said specified computer to start said specified computer itself after said second command is transmitted to said storage device.

13. A read-ahead method to be executed in the storage device, comprising the steps of:

transmitting to said storage device a first command containing information for specifying a computer that uses said storage device and a history to be used for said read-ahead;

in said storage device,

recording a location where said data is to be stored as a history as being linked with information for specifying said history and information for specifying said computer contained in said command when said specified computer reads out data from said storage device;

transmitting a second command containing information for specifying said computer and information for specifying said history to said storage device;

in said storage device,

pre-reading data from a recording medium included in said storage device, based on said recorded history corresponding with said information for specifying said computer and said information for specifying said history contained in said second command.

14. A read-ahead method according to claim 12, further comprising the steps of:

transmitting information about time to said storage device; and

recording said history until the time specified by said information about time in said

storage device.

15. A read-ahead method according to claim 12, further comprising the step of:

recording said history from a time specified by said information about time in said storage device, based on said information about time.

16. A system according to claim 10, wherein said management computer classifies said plurality of computers into a plurality of groups when registering said computers.